

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

In the Official Action, the Examiner rejects claims 17 and 18 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

With regard to claim 17, the Examiner argues that the “plurality of triangular openings” sub-paragraph is not supported in the specification. The Examiner argues that:

(1) Figures 8A and 8B illustrate a triangular aperture (43) and that the openings (44) are formed by the electrode portion (41) inserted into the triangular aperture; and

(2) The specification discloses the width of the plate-like electrode portion (42) is adjusted such that it cannot penetrate the triangular aperture (43), whereas claim 17 recites the size of the triangular openings (44) being chosen so as to not let the electrode portion penetrate.

In response, claim 17 has been amended to recite “a triangular aperture into which the rod-shaped electrode portion is inserted for advance and retreat is formed in the distal end of the sheath, said triangular aperture is a triangular hole in which the rod-shaped electrode portion is inscribed, and parts of said triangular aperture other than that part which is occupied by the rod-shaped electrode portion form openings, individually.” The amendment to claim 17 is fully supported in the original disclosure, such as at page 22 of the specification. Thus, no new matter has been introduced into the disclosure by way of the amendment to claim 17.

Accordingly, it is respectfully requested that the rejection of claims 17 and 18 under 35 U.S.C. § 112, first paragraph, be withdrawn.

In the Official Action, the Examiner rejects claims 1, 7-9 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Kokai Publication No. 4-329944 (hereinafter "Kokai") in view of U.S. Patent No. 4,943,290 to Rexroth, et al. (hereinafter "Rexroth"). Furthermore, the Examiner rejects claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Kokai and Rexroth and further in view of U.S. Patent No. 5,846,241 to Kittur, et al. (hereinafter "Kittur").

In response, Applicant respectfully traverses the Examiner's rejections under 35 U.S.C. § 103(a) for at least the reasons set forth below. However, independent claims 1 and 17 have been amended to clarify their distinguishing features. Specifically, claim 1 has been amended to recite a radio knife comprising:

- an electrically insulative flexible sheath having a flow channel inside, a distal end portion and a proximal end portion, the distal end portion of the sheath having a distal opening and an axis;

- a support member which closes the distal opening of the sheath, the support member having a slide hole with a diameter smaller than that of the distal opening extending along the axis thereof;

- an operating wire axially movable in the sheath;

- an electrode portion which has a distal end portion and a proximal end portion and of which at least a part forms a rod-shaped portion, the proximal end portion of the electrode portion being coupled to the operating wire, the rod-shaped portion being passed through the slide hole for axial projection and retraction;

- a control section which is provided on the proximal end portion of the sheath and controls the operating wire to project and retract the electrode portion in the axial direction, the control section having a high-frequency current supply portion which supplies a high-frequency current to the electrode portion;

- a liquid feed portion which is provided on the proximal end side of the sheath and feeds a liquid through the flow channel inside the sheath towards the distal opening; and

a plurality of rectangular openings extending outward from the slide hole, an inner end portion of each of the rectangular openings being coupled to the slide hole, wherein an entire width of each of the plurality of rectangular openings is set to a dimension such that it cannot be penetrated by the electrode portion.

As discussed above, independent claim 17 has been amended to recite a radio knife comprising:

an electrically insulative flexible sheath having a flow channel inside, a distal end portion and a proximal end portion, the distal end portion of the sheath having a distal opening and an axis;

a support member which closes the distal opening of the sheath, the support member having a slide hole with a diameter smaller than that of the distal opening extending along the axis thereof;

an operating wire axially movable in the sheath;

an electrode portion which has a distal end portion and a proximal end portion and of which at least a part forms a rod-shaped portion, the proximal end portion of the electrode portion being coupled to the operating wire, the rod-shaped portion being passed through the slide hole for axial projection and retraction;

a control section which is provided on the proximal end portion of the sheath and controls the operating wire to project and retract the electrode portion in the axial direction, the control section having a high-frequency current supply portion which supplies a high-frequency current to the electrode portion;

a liquid feed portion which is provided on the proximal end side of the sheath and feeds a liquid through the flow channel inside the sheath towards the distal opening; and

a plurality of triangular openings extending outward from the slide hole, an inner end portion of each of the triangular openings being coupled to the slide hole, wherein a triangular aperture into which the rod-shaped electrode portion is inserted for advance and retreat is formed in the distal end of the sheath, said triangular aperture is a triangular hole in which the rod-shaped electrode portion is inscribed, and parts of said triangular aperture other than that part which is occupied by the rod-shaped electrode portion form openings, individually.

The amendments to claims 1 and 17 are fully supported in the original disclosure. For example, the amendment to claim 1 is fully supported at Figures 7a and 7b of the Drawings. The support for the amendment to claim 17 is discussed above. Thus, no new matter has been introduced into the disclosure by way of the present amendments to independent claims 1 and 17.

Turning now to the prior art, the openings of channels 75-78 shown in FIG. 6 of Rexroth are a plurality of fan-shaped apertures, and are not rectangular openings.

Furthermore, in claim 1, "an entire width of each of the plurality of rectangular openings" is formed to prevent "penetration" while, in FIG. 6 of Rexroth, an electrode portion is supported by the slide hole alone, but the penetration is not prevented by an entire width of each of rectangular openings.

The channels 75-78 in FIG. 6 of Rexroth are thereby worn and the electrode portion falls into fan-shaped opening portions. On the other hand, since "an entire width of each of the plurality of rectangular openings" in claim 1 is recited to prevent "penetration" of the electrode portion, the electrode portion is kept sufficiently supported even if the rectangular openings are worn.

With regard to claim 17, the Applicant respectfully submits that none of the cited references discloses the triangular aperture recited therein.

With regard to the rejection of claims 1, 7-9 and 15 under 35 U.S.C. § 103(a), Independent claim 1 is not rendered obvious by the cited references because neither the Kokai publication nor the Rexroth patent, whether taken alone or in combination, teach or suggest a radio knife having the features discussed above and recited in independent claim 1. Accordingly, claim 1 patentably distinguishes over the prior art and is allowable. Claims 7-9

and 15, being dependent upon claim 1, are thus at least allowable therewith. Consequently, the Examiner is respectfully requested to withdraw the rejection of claims 1, 7-9 and 15 under 35 U.S.C. § 103(a).

With regard to the rejection of claim 10 under 35 U.S.C. § 103(a), since independent claim 1 patentably distinguishes over the prior art and is allowable, claim 10 is at least allowable therewith because it depends from an allowable base claim. Consequently, the Examiner is respectfully requested to withdraw the rejection of claim 10 under 35 U.S.C. § 103(a).

In view of the above, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned.

Respectfully submitted,

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